ZILOVA, T.K.

ZILOVA, T.K., kand. tekhn. nauk; SADOVSKIY, V.Ye., insh.; DEMINA, N.I., insh.

Effect of surface condition on the susceptibility of 30KhGSA steel to delayed failure. Metallov. i obr. met. no.8:2-7 Ag '57.
(Steel--Defects)   (MIRA 10:12)

14(11)

AUTHORS: Zilova, T. K., Palkin, B. A.,   SOV/32-25-1-31/51
               Petrukhina, N. I., Ryazanov, N. V.,
               Fridman, Ya. B.

TITLE: Extension Test at Various Elastic Energy Reserves (Ispytaniye
               na rastyazheniye pri razlichnykh zapasakh uprugoy energii)

PERIODICAL: Zavodskaya Laboratoriya, 1959, Vol 25, Nr 1, pp 76-82 (USSR)

ABSTRACT: The test plant DRP-361 was designed for studying the influence
               exercised by the initial elastic energy reserve upon load
               conditions and material properties. It is provided with a
               dynamometric spring with variable elasticity. The maximum
               load and maximum reserve of elastic energy which is stored
               up in the spring dynamometer, depend on the properties of the
               chosen spring, their number and arrangement. By means of that
               plant, short and long-term tests of extension can be carried
               out according to the scheme of an isolated and unisolated
               system. The mechanical and hydraulic part of the plant is
               calculated for a maximum axial load of 15 tons, a maximum
               oil pressure of 100 kg/cm^2, and a maximum piston motion of
               15 mm. The plant covers the test plant (Fig 1), a system of
Card 1/2   hydraulic supply lines (Fig 2) and a set of measuring

Extension Test at Various Elastic Energy Reserves   SOV/32-25-1-31/51

instruments. The set is provided with a loop oscillograph MPO-2
the dynamometric spring represents a series of foil springs
(according to GOST 3057-54), and AMG-10 was used as working
liquid. The cells were calibrated (for the purpose of measur-
ing the axial load of the specimen) by means of the IM4A test
plant. The oscillograms obtained were measured by means of a
BMI microscope. The sample stress was measured by means of
tension indicators. The latter consist of the ICh indicator,
a small elastic U beam of beryllium bronze and "resistance
cells" of the DK-10 or DK-2j type. It was stated that the
influence of elasticity is determined by the kinetics of the
change in the load force. Some further observations were made
with the D16T alloy and some 30 KhGSNA steel specimens. There
are 9 figures, 3 tables, and 9 references, 6 of which are
Soviet.

Card 2/2

16(10)

SOV/20-124-6-15/55

AUTHORS: Zilova, T. K., Petrukhina, N. I., Fridman, Ya. B.

TITLE: On the Rules of the Kinetics of Deformation in Dependence on
the Relaxation of the Load (O zakonomernostyakh kinetiki de-
formatsii v zavisimosti ot podatlivoti nagruzheniya)

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 6,
pp 1236 ~ 1239 (USSR)

ABSTRACT: The authors investigated the rules of load and deformation in
the case of varying relaxation of the load system, i.e. in the
case of a varying character of the time-dependence of the load
force P_{load} in the case of deformation and lifting of the load
in segregated system. The tests were carried out by means of
the devices DRP-361 especially constructed for this purpose,
in the spring—dynamometer an initial supply of elastic energy
was provided. This device DRP-361 was developed by the authors
in collaboration with B. A. Palkin and N. V. Ryazanov. The re-
laxation of the device during the tests carried out by the authors
amounted to 0.7 mm/T. The results obtained were recorded by
means of the loop-oscillograph MPO-2. The quantities recorded

Card 1/3

On the Rules of the Kinetics of Deformation in   SOV/20-124-6-15/55
Dependence on the Relaxation of the Load

concerned stress on the dynamometer, stress on the sample,
and extension of the sample. The experiments were carried out
with smooth samples (5 mm diameter) of the alloys D16T and of
KhNMA steel in the state of quenching and temperating at
200 and 550°. In the case of a relaxation of 0.7 mm/T the
kinetic curves of stress on the dynamometer show a sharp down-
ward slope, but at 2.5 mm/T this curve takes a flat course.
The curves of the rate of absolute deformation are influenced
by relaxation in the same way. The greater the supply of elastic
energy with conditions otherwise being equal, the higher will
be the rate of the deformation process when approaching fracture,
and the shorter the duration of the entire process until
fracture occurs. The process in all cases begins to develop
with positive acceleration. The lower the degree of relaxation,
the more rapidly will the process with positive acceleration go
over into a process with negative acceleration, i.e. into the
stage of damping. In the case of an equal initial stress, the
sample will not break with a considerable decrease of force
with time, but in the case of a slow decrease of force, it breaks
Card 2/3   already after the short time $\tau \approx 0.32$ sec. From the results

On the Rules of the Kinetics of Deformation in
Dependence on the Relaxation of the Load

SOV/20-124-6-15/55

obtained by the present investigation the following conclusions
may be drawn: The influence exercised by the supply of elastic
energy (which was observed also in the case of fractures occurring
during operation in practice), is essentially determined by the
character of the variation of the kinetics of force in the case
of disturbed or non-existing equilibrium. The greater the supply
of elastic energy (with the loading force being equal), the more
slowly will the loading force decrease with time if the deforma-
tion of the loading body develops further. The rules discussed
in the present paper were determined in segregated systems, but
it may by all means be assumed that they apply also to such cases
as are subjected to an external load during the entire load
process. There are 4 figures and 10 references, 7 of which are
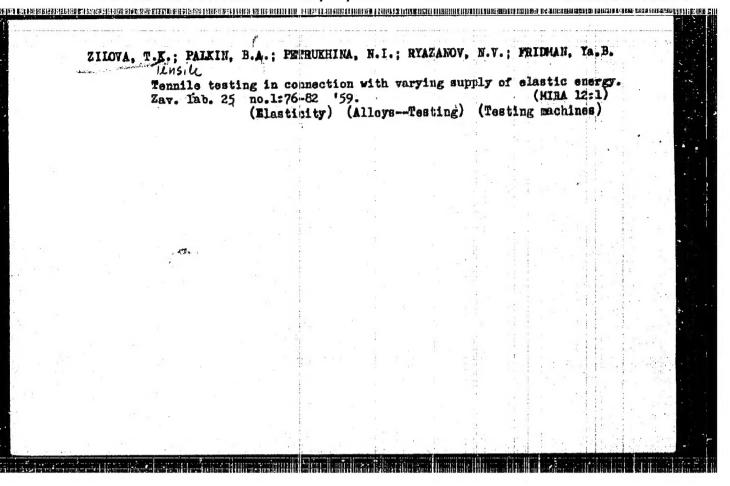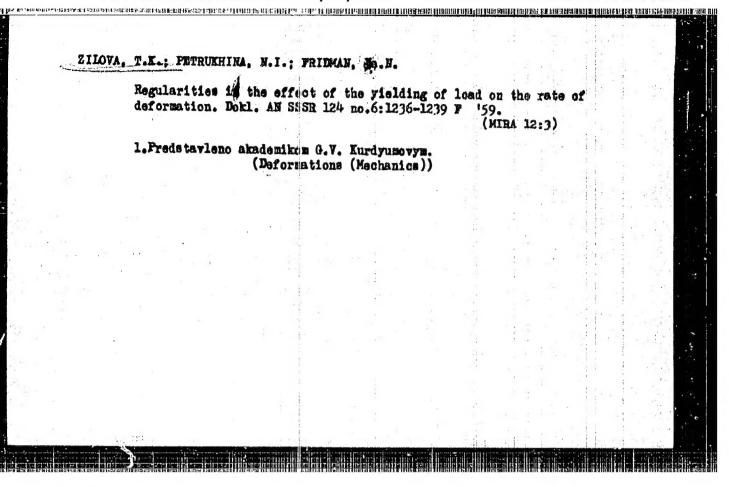Soviet.

PRESENTED: July 24, 1958, by G. V. Kurdyumov, Academician

SUBMITTED: July 16, 1958

Card 3/3

ZILOVA, T.K.; PALKIN, B.A.; PETRUKHINA, N.I.; RYAZANOV, N.V.; FRIDMAN, Ya.B.

tensile

Tennile testing in connection with varying supply of elastic energy.
Zav. lab. 25 no.1:76-82 '59.   (MIRA 12:1)

(Elasticity) (Alloys--Testing) (Testing machines)

ZILOVA, T.K.; PETRUKHINA, N.I.; FRIDMAN, Ya.N.

Regularities in the effect of the yielding of load on the rate of
deformation. Dokl. AN SSSR 124 no.6:1236-1239 F '59.
(MIRA 12:3)

1.Predstavleno akademikom G.V. Kurdyumovym.
(Deformations (Mechanics))

RATNER, Sof'ya Isaakovna; SERENSEN, S.V., retsenzent; ZILOVA, T.K., kand.tekhn.nauk, red.; KUZNETSOVA, A.G., izdat.red.; ROZHIN, V.P., tekhn.red.

[Breakdown caused by repeated loads] Razrushenie pri povtornykh nagruzkakh. Moskva, Gos.izd-vo obor.promyshl.. 1959. 351 p.   (MIRA 12:8)

1. Deystvitel'nyy chlen AN USSR (for Serensen).
            (Strength of materials)

ZILOVA, T.K.

24(6) PHASE I BOOK EXPLOITATION SOV/2365

Akademiya nauk SSSR

Nekotoryye problemy tverdogo tela; sbornik statey (Some Problems
in the Strength of Solids; Collection of Articles) Moscow, Izd-vo AN SSSR,
1959. 365 p. Errata slip inserted. 2,000 copies printed.

Ed. of Publishing House: V. I. Aver'yanov; Tech. Ed.: R. S. Pevsner;
Editorial Board: A.F. Loffe, Academician; G. V. Kurdyumov, Academician;
S.N. Zhurkov, Corresponding Member, USSR Academy of Sciences; B. Ya.
Pines (?), Doctor of Physical and Mathematical Sciences, Professor (Resp. Ed.); L. A.
Glikman, Doctor of Technical Sciences, Professor; N. A. Klatin, Doctor of
Physical and Mathematical Sciences; A. Regener, Doctor of Technical
Sciences; B. A. Fridman, Doctor of Technical Sciences, Professor; B. S. Lerch,
Candidate of Technical Sciences (Deputy Resp. Ed.).

PURPOSE: This book is intended for construction engineers, technologists, physicists and other persons interested in the strength of materials.

COVERAGE: This collection of articles was compiled by the Otdeleniye fiziko-
matematicheskikh nauk AN SSSR (Department of Physical and Mathematical Sciences)
and the Fiziko-tekhnicheskiy institut AN SSSR (Institute of Applied Physics,
Academy of Sciences, USSR) in commemoration of the 60th birthday of Nikolay
Nikolayevich Davidenkov, Member of the Ukrainian Academy of Sciences, founder
and head of the Otdel prochnosti materialov (Department of the Strength of
Materials) at the Institute of Applied Physics, Academy of Sciences, USSR,
founder of the Fakul'tet fiziko-mekhaniki metallov metallovedeniya (Department of Physical
Metallurgy) at the Leningradskiy politekhnicheskiy institut (Leningrad Polytechnic Institute), recipient of the Stalin Prize (1942), the Order of the
Red Banner of Labor (1945) and the Order of Lenin (1953). The articles deal
with the strength of materials, phenomena of incomplete elasticity,
brittleness, hydrogen embrittlement, cold brittleness, influence of deformation speed on the mechanical properties of materials, fatigue of metals, and
general problems of the strength, plasticity, and mechanical properties of
materials. Numerous personalities are mentioned in the introductory profile
of Professor Davidenkov. References are given at the ends of the articles.

Bever, N.N.; B.I. Reinborn, and N.A. Prieu. Effect of Size of Test
Piece on the Strength Under Repeated Stresses ... 266

Syzgach, G.V. Accumulation of Fatigue Damage in Iron With Globular
Graphite During Reverse Bending ... 275

Drozdovskiy, B.A., and Ya.B. Fridman. Sensitivity of Metals to Cracks ... 280

Mirov, T.G.; B.I. Paturikhin, and Ya. B. Fridman. Kinetics of Deformation and Fracture Processes in Connection With the Measure of Plastic
Energy ... 297

Richenko, O.I. (Industrial Institute imeni Korolyev, Kuybyshev).
Determination of the Rupture Strength of a Plastically Deformed Metal ... 312

Volkov, S.D. (Ural'skiy politekhnicheskiy institut imeni S.M. Kirov,
Sverdlovsk - Ural Polytechnic Institute imeni S.M. Kirov, Sverdlovsk).
Principles of the Statistical Theory of Strength ... 325

Syromyatnikova, I.... and I.... Babkin ... (Ordzhonikidze filial VNII metrologii
imeni Mendeleyev, All-Union Scientific Research Institute of Metrology
imeni Mendeleyev, Sverdlovsk Branch). Mechanical Properties of Tempered
Steel Under Biaxial Tension ... 334

Zilova, T.K.; G.I. Gurman; V.N. Levin, and Ya.B. Fridman (Institute of
Applied Physics, Academy of Sciences, USSR, Leningrad). Problem of Increasing the Strength of Glass ... 340

Slepyan, V.I., and L.G. Dochkina (Institute of Applied Physics,
Academy of Sciences, Leningrad). Measuring Residual Stresses in
Tempered Glasses by the Mechanical Method ... 348

Sakhnov, P.I. (Institut kristallografii AN SSSR, G. Moskva—Crystallography Institute, Academy of Sciences, USSR, Moscow). Some Findings
on the Estimation of Bodies Under the Action of Internal Stresses ... 357

Par'din, T.A., and Ya.F. Rukh (Institute of Applied Physics, Academy
of Sciences, USSR, Leningrad). Rate of Development of Artificial Cracks
in Glass and Steel ... 362

Regel', V. R., and G.V. Berezhkova (Crystallography Institute, Academy
of Sciences, USSR, Moscow). Effect of the Type of Stressed State on
Flow-Curve Parameters of Some Plastics ... 375

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ZILOVA T.K.

ZHLOVA, T.K., FRIDMAN, Ya.B.

First All-Union Congress on Theoretical and Applied Mechanics.
Zav.lab. 26 no.5:647-648 '60.   (MIRA 13:7)
            (Mechanics--Congresses)

FRIDMAN, Ya.B.; ZILOVA, T.K.; DROZDOVSKIY, B.A.; PETRUKHINA, N.I.

Estimation of mechanical charateristics taking into consideration
the kinetics of deformation and failure. Zav.lab. 26 no.11:1267-1283
'60.   (MIRA 13:11)
        (Strength of materials)   (Deformations (Mechanics))

85530

S/032/60/026/011/020/035
B004/B067

18 82vo

AUTHORS: Fridman, Ya. B., Zilova, T. K., Drozdovskiy, B. A., and
Petrukhina, N. I.

TITLE: Evaluation of Mechanical Characteristics in Consideration of
the Deformation and Destruction Kinetics

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 11,
pp. 1267 - 1283

TEXT: The authors discuss the effect of the kinetics of deformation
processes on the durability of the material. A pre-critical state (the
process is delayed $j < 0$) and a trans-critical state ($j > 0$) may be
distinguished when determining the acceleration j of the deformation
process. Also the critical point at which j changes its sign may be deter-
mined. The consideration of the kinetics is especially important in
establishing the modern working conditions for apparatus with a) high
operation temperatures, b) high average stress applied for short time,
c) nonperiodic stress due to distorted fields of stress in complex designs
and irregular action of temperature, corrosion or radiation, and

Card 1/2

85530

Evaluation of Mechanical Characteristics in
Consideration of the Deformation and
Destruction Kinetics

S/032/60/026/011/020/035
B004/B067

d) structural instability of the material. The following is distinguished
in the transcritical state: 1) incubation period, 2) braking period,
3) steady period, and 4) final period sometimes taking place avalanche-
like. The mechanical characteristics of the individual periods were
defined and discussed. The effect of elastic energy and relaxation on the
deformation kinetics is discussed by examples of material testing of
X15H9Ю (Kh15N9Yu) and X17H5M3 (Kh17N5MZ) steels and B95 (V95) and B96
(V96) lightweight alloys and the effect of asymmetrical indentations as
well as of surface changes due to thermal processes is explained.
B. A. Palkin, N. V. Ryazanov, Yu. A. Bulanov, and T. V. Avdyunina are
mentioned. Reference is made to a paper by E. I. Braynin. There are
14 figures, 5 tables, and 42 references: 37 Soviet, 1 US, 1 Austrian,
2 British, 1 German, and 1 Japanese.

Card 2/2

ZILOVA, T.K.; PETRUKHINA, N.I.; PALKIN, B.A.; RYAZANOV, N.V.;
    FRIDMAN, Ya.B.; primimali uchastiye: BULANOV, Yu.A.,
    KOS'KINA, V.N.

Tension and torsion testing of studs at different flexibility
of load-applying devices. Zav.lab. 27 no.7:877-883 '61.
                                                (MIRA 14:7)

            (Materials--Testing)

FRIDMAN, Yakov Borisovich; ZILOVA, Tat'yana Kirillovna; DEMINA, Nina
    Ivanovna; BOBYLEV, A.V., doktor tekhn. nauk, retsenzent;
    EL'YASHEVA, M.A., kand. tekhn. nauk, red.; BURAKOVA, O.N.,
    red.; NOVIK, A.Ya., tekhn. red.

[Using the method of rolled-on gratings in investigating
plastic deformation and breakdown] Izuchenie plasticheskoi
deformatsii i razrusheniia metodom nakatannykh setok. Mo-
skva, Gos. nauchno-tekhn. izd-vo Oborongiz, 1962. 187 p.
                                        (MIRA 15:4)
    (Deformations (Mechanics)) (Plasticity)

BOKSHTEYN, S.Z. (Moskva); KISHKIN, S.T. (Moskva); LOZINSKIY, M.G. (Moskva);
     SOKOLKOV, Ye.N. (Moskva); Prinimali uchastiye: PODVOYSKAYA, O.N.;
     ZILOVA, T.K.; SOROKINA, K.P.; POLYAK, E.V.; MOROZ, L.M.;
     BULYGIN, I.P.; LASHKO, N.F.; POKAMESTOVA, T.N.; GORDEYEVA, T.A.;
     YAGLOV, R.V.; VOLODINA, T.A.; KORABLEVA, G.N.; ANTIPOVA, Ye.I.

Thermomechanical treatment of chromium-nickel-manganese
austenitic steel. Izv. AN SSSR. Otd. tekh. nauk. Met. i topl.
no.2:15-21 Mr-Ap '62.   (MIRA 15:4)
          (Chromium-nickel steel--Hardening)

KHIMUSHIN, Fedor Fedorovich; VINAROV, S.M., doktor tekhn. nauk, prof.,
        retsenzent; ZILOVA, T.K., kand. tekhn. nauk, red.; ANTONOVA,
        S.D., red.izd-va; ORESHKINA, V.I., tekhn. red.

        [Alloying, heat treatment and properties of heat-resistant
        steels and alloys]Legirovanie, termicheskaia obrabotka i svoi-
        stva zharoprochnykh stalei i splavov. Moskva, Oborongiz, 1962.
        335 p.   (MIRA 16:3)
                (Heat-resistant alloys)
                (Steel, Heat-resistant)

FRIDMAN, Ya.B.; ZILOVA, T.K.; SHEKHTER, V.Ya.; SHAFOVALOV, L.A.;
    NOVOSIL'TSEVA, N.I.

    Behavior of sheet metals during biaxial pulling. Issl. splav.
    tsvet. met. no.4:185-203 '63.   (MIRA 16:8)

        (Sheet metal--Testing)

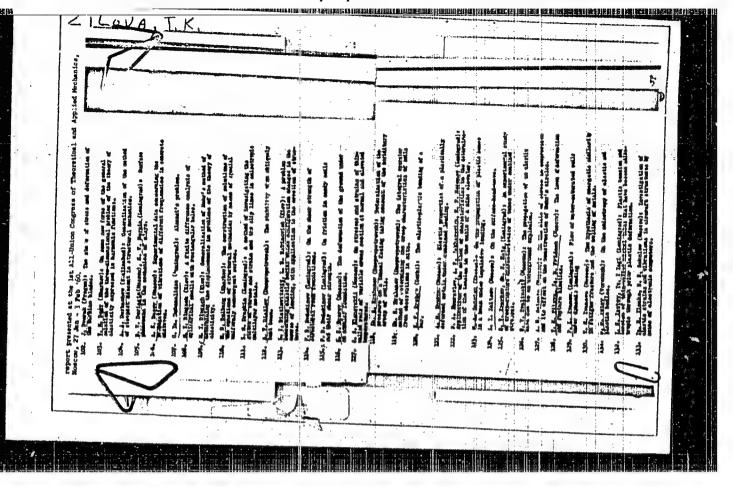ZILOVA, T.K.; NOVOSIL'TSEVA, N.I.; PALKIN, B.A.; RYAZANOV, N.V.; FRIDMAN, Ya.B.

Methods of testing sheet materials for biaxial tension in the presence of different reserves of elastic energy. Zav.lab. 29 no.5:600-604 '63.

(Materials—Testing)   (MIRA 16:5)

ZILOVA, I.K.

Report presented at the 1st All-Union Congress of Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb '60.

S/032/60/026/05/60/063
B010/B008

AUTHORS: Zilova, T. K., Fridman, Ya. B.

TITLE: I Vsesoyuznyy s"yezd po teoreticheskoy i prikladnoy mekhanike
(1st All-Union Conference on Theoretical and Applied
Mechanics)

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 5, pp. 647-648

TEXT: The Conference mentioned in the title was held in Moscow from
January 27 to February 3, 1960 and was organized by the Natsional'nyy
Komitet SSSR po teoreticheskoy i prikladnoy mekhanike (National Committee
of the USSR for Theoretical and Applied Mechanics), the Otdeleniye
tekhnicheskikh nauk AN SSSR (Department of Technical Sciences of the
AS USSR), the Institut mekhaniki AN SSSR (Institute of Mechanics of the
AS USSR) and the Moskovskiy gosudarstvennyy universitet im. M. V.
Lomonosova (Moscow State University imeni M. V. Lomonosov). The Congress
was held in 3 sections: 1st section - general and applied mechanics under
the chairmanship of M. V. Keldysh; 2nd section - mechanics of liquids
and gases, chairman L. I. Sedov and 3rd section - mechanics of the solid,

Card 1/4

I Vsesoyuznyy s"yezd po teoreticheskoy i prikladnoy mekhanik. (1st All-Union Conference on Theoretical and Applied Mechanics)

S/032/60/C26/05/60/063
B010/B009

chairman N. I. Muskhelishvili. Besides the delegates from the Soviet Republics, visitors from Czechoslovakia, Poland, Rumania, France, the USA etc. attended the Conference. About 100 lectures were delivered in the 1st section, more than 230 in the 2nd section and more than 300 in the third section. A survey with short thematic explanations of the lectures read in the 3rd section is given. The following authors and titles are mentioned: A. A. Il'yushin "Problems of the Theory of the Plasticity at Complicated Loads"; Yu. N. Rabotnov (Novosibirsk) "The Creepage"; L. M. Kachanov (Leningrad) "On the Problem of the Breaking Time Under Creep Conditions"; B. F. Shorr (Moscow) "The Creepage of Irregularly Heated Bodies"; V. P. Rabinovich and Yu. N. Rabotnov "Strength of the Turbine Disks Under Creep Conditions"; A. V. Burlakov (Khar'kov) gave results on the creepage of turbine diaphragms; A. N. Grubin (Leningrad) "Stress Concentration at the Elongation of Flat Notched Samples Under Conditions of Greater Creep Deformations"; B. V. Zver'kov and Sh. N. Kats (Leningrad) reported on the Fracture and the Creepage of Tubes From Slightly Alloyed and Austenitic Steels; V. L. Agamirov, A. S. Vol'mir, V. Ye. Mineyev (Moscow) "Strength and Overcritical Deformation of Casings at

Card 2/4

I Vsesoyuznyy s"yezd po teoretichaskoy i
prikladnoy mekhanike (1st All-Union Conference
on Theoretical and Applied Mechanics)

S/032/60/026/05/60/063
B010/B008

Dynamic Loads"; G. I. Barenblat (Moscow) "Theory of Equilibrium Cracks
Which Develop at the Brittle Fracture" explained some hypotheses by
Griffiths, Ya. I. Frenkel' and A. R. Rzhanitsyn (papers by P. A. Rebinder
and S. A. Khristianovich are mentioned in this connection); M. Ya.
Leonov and V. V. Panasyuk "On the Development of Finest Cracks"; G. V.
Uzhik reported on the influence of the concentration of the stresses on
the criteria of the strength and fracture; V. S. Ivanova compared some
computation values of the fatigue limits; Ya. B. Fridman and T. K.
Zilova "Regularities of the Kinetics of the Deformation and the Fracture
on the Basis of a Study of the Dependence in Time of the Second
Derivatives (Accelerations) of the Plastic Deformation and the Fracture";
calculation methods for metal working by pressing and hammering were
explained in the contributions by L. G. Stepanskiy, Ye. P. Unksov,
V. G. Osipov et al; problems of the experimental method for the deter-
mination of stresses and deformation were explained in the contributions
by N. I. Prigorovskiy (Moscow); A. Ya. Aleksandrov (Novosibirsk)
"Experimental Investigation of Flat Elastic-plastic Problems"; L. G.
Drapkin investigated the stressed and deformed phase of anisotropic,

Card 3/4

I.Vsesoyuznyy s"yezd po teoreticheskoy i   5/032/60/026/05/60/063
prikladnoy mekhanike (1st All-Union Conference   B010/B008
on Theoretical and Applied Mechanics)

multilayer metals; A. M. Gol'dberg and V. G. Korotkin (Leningrad)
"Theoretical and Experimental Computation Methods of the Strength of
Lock Constructions of the Stalingradskaya GES (Stalingrad Hydroelectric
Power Station)" and Belan, Petku, Reutu (Bucharest, Rumania) reported
on plastic materials which change their color at the yield point.

Card 4/4

ACCESSION NR: AP4035091   8/0032/64/000/005/0587/0592

AUTHORS: Demina, N. I.; Zilova, T. K.; Fridman, Ya. B.

TITLE: Mechanical testing methods for sheet materials under biaxial tension

SOURCE: Zavodskaya laboratoriya, no. 5, 1964, 587-592

TOPIC TAGS: stress strain, plastic deformation, axial tension, transverse deformation, sheet metal, elastic limit, meter EID 3

ABSTRACT: Four different methods were used to study the stress-strain characteristics of sheet metals under elastic and plastic deformations. Elastic deformations were measured by means of strain gauges and an EID-3 electronic meter; plastic deformations by means of rolled-on grids. The first was an axial tension method on smooth, wide specimens, (width-to-thickness ratio, b/t, from 3.5 to 50) of annealed AMTs, VAD-23 and D16T alloys. The results showed no indication of biaxial tension in specimens for which b/t < 30. In all cases the transverse deformation was in compression. The second method consisted of forming a thin groove (3 t mm wide, t ≈ 6 mm) along the width, on both sides, of a 30 t mm wide V95T alloy. The results showed a single-axis stress state during elastic defor-

Card 1/2.

ACCESSION NR: AP4035091

mation and a biaxial stress with $\sigma_2/\sigma_1 \approx \frac{1}{2}$ under plastic deformation. The third test was a flexural loading of the same alloys with $b/t = 3$ and 15. This yielded a result identical to those obtained by the second method. In the last method ellipsoidal segments of AMTs, D19T, and copper sheets were fastened at their edges and subjected to internal pressure. The results showed that both longitudinal and transverse deformations were positive, under both elastic and plastic deformations, with $\sigma_2/\sigma_1 \approx 0.7$. Orig. art. has: 5 figures, 5 formulas, and 2 tables.

ASSOCIATION: none

SUBMITTED: 00

SUB CODE: MM

DATE ACQ: 20May64

NO REF SOV: 004

ENCL: 00

OTHER: 004

Card 2/2

KHOREV, A.I.; GLAZUNOV, S.G.; ZILOVA, T.K.; NOVOSHIL'TSEVA, N.I.; GERAS'KOVA, L.V.

Effect of thermal treatment and cladding on the strength of
VT14, VT15, and VT16 titanium alloys under biaxial tension.
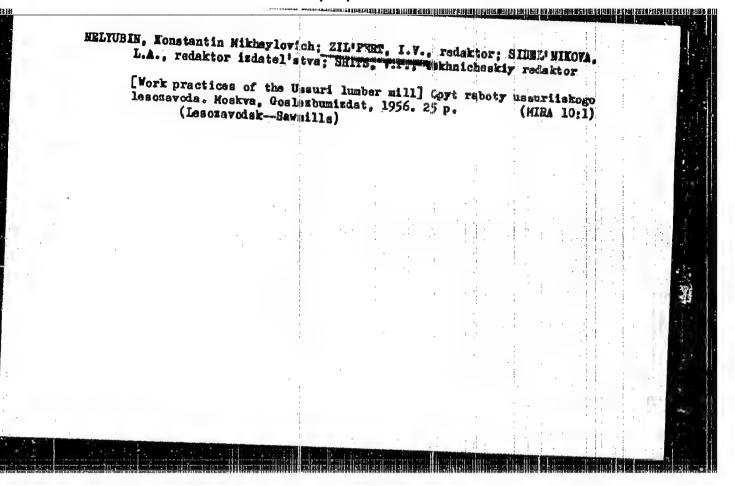TSvet. met. 38 no.9:75 S '65.

(MIRA 18:12)

L 40953-66   EWT(m)/EWP(w)/EWP(k)/T/EWP(t)/ETI   IJP(c)   RM/JH/HW/JD

ACC NR: AT6024920 (A)   SOURCE CODE: UR/2981/66/000/004/0112/0119

AUTHOR: Kishkina, S. I.; Zilova, T. K.; Kadobnova, N. V.; Drozdovskiy, B. A.; Bubenshchikov, V. S.; Surkova, Yu. I.

ORG: none

TITLE: Stress-concentration and crack sensitivity of ATsM, ATsMU and AMg6 alloys and their welds

SOURCE: Alyuminiyevyye splavy, no. 4, 1966. Zharoprochnyye i vysoko-prochnyye splavy (Heat-resistant and high-strength alloys), 112-119)

TOPIC TAGS: aluminum alloy, high strength alloy, stress concentration, notch sensitivity, metal property, / ATsM aluminum alloy, ATsMU aluminum alloy, AMg6M aluminum alloy, AMg6N aluminum alloy

ABSTRACT: Hot-rolled ATsM, ATsMU, AMg6M and AMg6N alloy plates 10 mm thick, ATsM and ATsMU alloy forgings, ATsMU and AMg6M alloy extruded shapes, and welds of these alloys have been tested for stress-concentration and crack sensitivity. The sensitivity to stress concentration was evaluated on the basis of tensile tests with notched specimens stressed under an angle of 4—8° to the axis. Crack sensitivity was tested with Mesnoger specimens having artificial cracks 1.5 mm deep. In all cases, specimens of ATsM and ATsMU alloys were tested after

Card 1/2

L 40953-66

ACC NR: AT6024920

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aging at 90—100C for 100 hr. It was found that plates and extruded
shapes of AMg6M alloy and their welds had low sensitivity to crack
and stress concentration. The 20% strain-hardened AMg6N alloy plates
were found to be crack and stress-concentration sensitive. The AMg6N
alloy welds, however, had a low sensitivity to cracks and stress con-
centrations, identical to that of annealed plates and welds. Welds
of high-strength ATsM alloy (tensile strength over 43 kg/mm^2) were
found to be stress-concentration and crack sensitive. The results of
these tests led to the conclusion that AMg6N (strain-hardened AMg6)
can be used in large welded structures. The ATsM alloy is less suitable
for such structures because of high sensitivity to stress concentra-
tions and cracks. Orig. art. has: 2 figures and 3 tables.   [TD]

SUB CODE: 11, 13/ SUBM DATE: none/ ORIG REF: 002/ ATD PRESS: 5056

Card 2/2   hs

L 2121-66   EWT(m)/EWP(i)/EWA(d)/EWP(t)/EWP(z)/EWP(b)   IJP(c)   MJW/JD
ACCESSION NR: AP5022381   UR/0136/65/000/009/0075/0079
                                                669.295:621.78

AUTHOR: Khorev, A. I.; Glazunov, S. G.; Zilova, T. K.; Kovasil'tseva,
N. I.; Geras'kova, L. V.

TITLE: Effect of heat treatment and cladding on the strength of VT14,
VT15, and VT16 titanium alloys in biaxial tension

SOURCE: Tsvetnyye metally, no. 9, 1965, 75-79

TOPIC TAGS: titanium alloy, titanium clad alloy, alloy burst strength,
alloy property, VT14 alloy, VT15 alloy, VT16 alloy

ABSTRACT: Specimens of variously heat treated VT14, VT15, and VT16
titanium alloys, some of them clad with VT1 titanium, were tested under
conditions of biaxial tension. Sheet specimens 210 x 210 x 0.8 mm
were fully annealed, formed into spherical segments 9—20 mm high, heat
treated (annealed or annealed, water quenched, and aged), and subjected
to burst tests. It was found that the burst strength of all the alloys
tested is higher than the tensile strength. The highest burst strength,
180 kg/mm^2, was exhibited by titanium-clad VT15 alloy annealed at 600C.

Card 1/2

L 2121-66
ACCESSION NR: AP5022381

water quenched, and aged 25 hr at 480C and 15 min at 560C. Cladding
had no effect on the strength of VT14 alloy, but increased the strength
of VT15 and VT16 alloys. In all alloys, however, cladding greatly im-
proved ductility. Orig. art. has: 2 figures and 2 tables.   [AZ]

ASSOCIATION: none

SUBMITTED: 00   ENCL: 00   SUB CODE: MM, MA

NO REF SOV: 001   OTHER: 000   ATD PRESS: 4117

Card 2/2

NELYUBIN, Konstantin Mikhaylovich; ZIL'PERT, I.V., redaktor; SIDEL'NIKOVA, L.A., redaktor izdatel'stva; SHITS, V.F., tekhnicheskiy redaktor

[Work practices of the Ussuri lumber mill] Opyt raboty ussuriiskogo lesozavoda. Moskva, Goslesbumizdat, 1956. 25 p. (MIRA 10:1)

(Lesozavodsk--Sawmills)

ZIL'PERT, L.V
CA

31

Plasticizers for polychlorovinyl resins.   L. V. Zil'pert,
P. F. Sapilevskii, and A. F. Klimkova.   U.S.S.R. 69,882,
Dec. 31, 1947.   A mixt. of hydrocarbon polymers, a
soln. of polymerized and unsatd. hydrocarbons in solvent
naphtha, and (or) residues of petroleum hydrolysis, with
commonly used plasticizers, e.g., phthalates, is used to
plasticize polychlorovinyl resins.   M. Hoseh

ZILPERT, L·V·

CA

31

Improving the chemical resistance of polychlorovinyl plastics. P. P. Sapilevskii and L. V. Zil'pert, U.S.S.R. 69,976, Dec. 31, 1947. Polychlorovinyl plastics or their powders are briefly exposed to a temp. of 180–200° under pressure of 25–40 kg. per sq. cm. and then rapidly cooled to 30–40°. M. Hosch

ZIL'BERT, L. V.
    USSR/Leather Substitutes   4414.0400

Oct 1947

"Use of Textile-vinylite Materials Based on Polyvinyl Chloride in Footwear," P. F. Sapilevskiy, L. V. Zil'bert, A. F. Klimkova, 3 pp

"Legkaya Prom" Vol VII, No 10

Discusses use of artificial leather for shoe tops, shoe linings, and soles. Charts indicate durability of various parts of shoes when they are subjected to different treatment.

LC

15064

ZIISKE

Sweating and efflorescence of hard soaps.   Heinz Ziiske. *Seifen-Öle-Fette-Wachse* 80, 103-4. 129-30, 151-3(105..). Sweating and efflorescence of soap are caused by structural changes of the colloidal system, mainly due to high content of electrolyte (NaCl).   Maria E. W. Tounk

L 06244-67 ~~~~ ~50~~ EWT(1) JK

ACC NR: AP6034501 (AN) SOURCE CODE: UR/0197/66/000/010/0055/0062

AUTHOR: Cinovskis, J.; Jegina, K. Zilsparne, A. Cibulska, A.

ORG: Institute of Biology, Latvian Academy of Sciences (Biologijas instituts, Latvijas PSR ZA)

TITLE: Basic trends and future prospects in biological pest control $\sqrt{0}$

SOURCE: AN LatSSR. Izvestiya, no. 10, 1966, 55-62

TOPIC TAGS: pest, pest control, biological pest control, trichogramma, parasite, microorganism, fungus, virus, plant pest

ABSTRACT: Biological pest control methods rely on utilizing a pest's natural enemies, such as parasites and predators. These enemies are preferably not poisonous to humans and domestic animals. Sterilization of pests by ionizing radiation or chemicals is used. In contrast to chemical methods that require continuous synthesis of new substances, biological methods are designed to study and utilize natural processes so that the predator may control the pest. Such predators are: microorganisms (viruses, bacteria, fungi, and other unicellular organisms), worms, mites, spiders, insects, amphibians, reptiles, birds, and

Card 1/4

L 08244-67

ACC NR: AP6034501

mammals. Since their number is generally inadequate for mass pest control, the
biologist must create conditions favorable for artificial breeding. The majority of
plant pests and their predators are insects. These natural enemies attack their
prey or parasitize them. Aphelinus mali, wasp, was used to control apple tree
blight in which the causative agent was Eriozoma lanigerum. Large-scale importa-
tion of predators has been successful elsewhere. In the Soviet Union, twelve
different parasites and predators have been acclimatized to combat cultivated plant
pests. Native parasite species (trichogramma) have been used successfully to
control plant pests. Three species commonly used in the Soviet Union are to control
of fruit, vegetable, and forest pests: Tr. evanescens, Tr. cacoecia, and Tr.
embryophagum. Trichogramma is an ovarian parasite and is widely distributed but
does not multiply abundantly by natural means. Therefore it is raised artificially.
Sixteen strains of the above three species have been studied in the Latvian SSR since
1958, and have been successfully employed against: the lesser apple worm
(Laspeyresia pomonella), the black-pea moth (L. nigricana), and the pine-shoot
moth (Evetria buoliana), resulting in marked decreases in crop losses. A special
laboratory of biomethods established at the Ogre Testing Station under the Latvian
Ministry of Agriculture has been producing Trichogramma preparations since 1961
for local use and export. Insects were sterilized by exposure to gamma rays,

Card 2/4

L 08244-67

ACC NR: AP6034501

x-rays, or chemicals but their ability to mate was not impaired. No progeny result from such matings. The Institute of Biology of the Latvian Academy of Sciences has sterilized beet pests and apple-blossom weevils using an atomic reactor, and is also developing chemical sterilants. The successful use of entompathogens has been reported. Microorganisms are useful as they are usually species-specific and adapt themselves readily, multiplying rapidly in the host and causing disease on a massive scale. Fungi and fungi imperfecti were the first agents used in biological pest control, causing muscardinoses and aspergilloses in pests. Various ascomycetes affect at least 50 types of plant pests. Beauveria bassiana is fatal to a large variety of pests, including apple-tree moths and potato beetles. Treatment of the potato beetle with a locally made fungus preparation resulted in a 92% mortality rate. The fungus is raised on a nutrient medium; when the spores are ready, the fungus is separated or dried together with the medium and mixed with a filler (a neutral substance) before application. Spore-forming bacteria Bac. papillia, Bac. lentimorbus, Bac. thuringiensis, Bac. cereus, and Bac. entomocidus have been used against moth and fly larvae. They multiply well on artificial media. The most promising biological control agents are the viruses. Insects are susceptible to many virus-caused granuloses, both nuclear and cytoplasmic. Use of virus preparations has resulted in 80% kills of cabbage and tussock moths. Other insect species are attacked by this preparation in all stages of development. Factors affecting
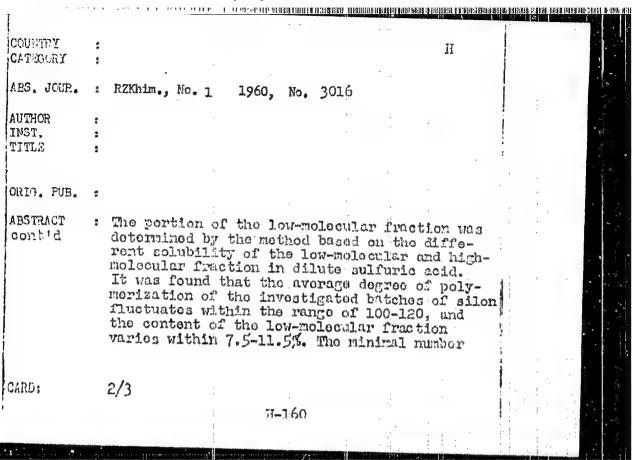
Card 3/4

L C8244-67

ACC NR: AP6034501

usefulness of microbiological control methods are: virulence of the microorganism, temperature and humidity of environment, susceptibility of the pest to the microbe which in turn is affected by natural immunity of the pest, its food supply, density per unit area of the local pest population and the microflora contained in the insect's intestinal tract. Considerable importance is attached to the weakening of the pest; this has led to an "integrated" approach to pest control wherein sublethal doses of insecticides are applied simultaneously with microorganisms. Physiological disturbances caused by the insecticide make the pest more vulnerable to microbial attack. Orig. art. has: 4 figs. [W.A. 50]

SUB CODE: 06/ SUBM DATE: 29Apr66/ ORIG REF: 029/ OTH REF: 006/

Card 4/4

1. FELDMAN, T. KH.; ZILSTER, A. I.

2. USSR (600)

4. Dyes and Dyeing

7. Synthesis of leucobases and dyes of the triphenylmethane series. Part 2.   T. Kh.
    Feldman, A. I. Zilster, Part 2. Zhur. ob. khim. 23 No. 3, 1953.

9. **Monthly List of Russian Accessions**, Library of Congress, _____June_____ 1953. Unclassified.

COUNTRY	:	CZECHOSLOVAKIA II
CATEGORY	:	Chemical Technology. Chemical Products and Their Uses. Part 4. Synthetic Polymers. Plastics
ABS. JOUR.	:	RZKhim., No. 1 1960, No. 3016
AUTHOR	:	Bilwachs, M.; Zilvar, V.
INST.	:	-
TITLE	:	Method of Qualitative Control of the Silon Mass
ORIG. PUB.	:	Chem. prumysl, 1958, 8, No 9, 497-500
ABSTRACT	:	It was established that various productional batches of the silon mass of Czechoslovak manufacture considerably differ as to their qualitative indicators (the average mol. wt., content of low-molecular fraction and moisture). In establishing the degree of nonhomogeneity, the relative viscosity of polyamide solutions was determined in 96.4% sulfuric acid with the aid of the Ubbelode viscosimeter.
CARD:		1/3

COUNTRY   :   H
CATEGORY   :

ABS. JOUR.   : RZKhim., No. 1   1960, No. 3016

AUTHOR   :
INST.   :
TITLE   :

ORIG. PUB.   :

ABSTRACT   : The portion of the low-molecular fraction was
cont'd   determined by the method based on the diffe-
                  rent solubility of the low-molecular and high-
                  molecular fraction in dilute sulfuric acid.
                  It was found that the average degree of poly-
                  merization of the investigated batches of silon
                  fluctuates within the range of 100-120, and
                  the content of the low-molecular fraction
                  varies within 7.5-11.5%. The minimal number

CARD: 2/3

                                    H-160

| COUNTRY | : | | H |
| CATEGORY | : | | |

ABS. JOUR. : RZKhim., No. 1   1960, No. 3016

AUTHOR :
INST. :
TITLE :

ORIG. PUB. :

ABSTRACT : of tests and analyses ensuring the accuracy of
cont'd   qualitative control was established on the
basis of statistical analysis. The authors
consider it expedient to organize the produc-
tion of silon with a very small content of
the low-molecular fraction and an average
degree of polymerization of ~300; such poly-
amide may be successfully used for the manu-
facture of technical products.-- L. Sodov

CARD: 2/3

ZILVAR, V.; TEPLY, J.; SIMORDA, J.

Equipment of investigating techological radiation processes applied in working up plastics and India rubber. p. 151

JADERNA ENERGIE. (Ministerstvo energetiky) Praha, Czechoslovakia, Vol. 5, No. 5 May 1959

Monthly List of East European Accessions (EEAI), LV, Vol. 8, No. 7, July 1959 Uncl.

ZILVAR,
~~Elinek, Zilvar~~

CZECHOSLOVAKIA / Chemical Technology. Synthetic Polymers.   H-29
            Plastics.

Abs Jour   : Ref Zhur - Khim., No 12, 1958, No 41578

Author   : Elinek, Zilvar
Inst   : Not given
Title   : Finishing of Glass Fabrics for the Preparation of Glass
              Textolite.

Orig Pub   : Chem. primysl, 1956, 6, No 8, 332-335

Abstract   : To increase the adhesion of poly-esterresins (I), it was
              suggested that a glass fabric be finished with a Cr-
              complex of the metacrylic acid treated with ammonia
              (manufactured in Czechoslovakia under the name of Verlan,
              M.). The glass fabric (GF) has to be cleaned from the
              lubricant before the operation. The properties of a glass
              textolite on GF finished with 0.143% of Verlan M complex
              and I (a product of a poly-condensation of maleic and

Card 1/2

8
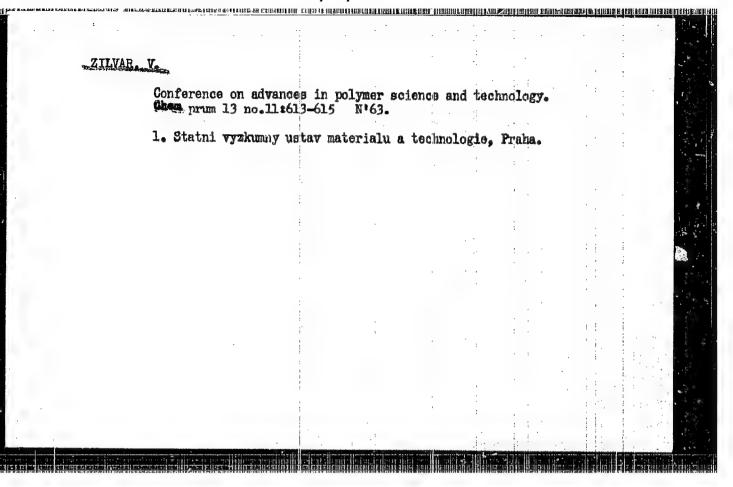
CZECHOSLOVAKIA / Chemical Technology. Synthetic Polymers.   H-29
            Plastics.

Abs Jour   : Ref Zhur - Khim., No 12, 1958, No 41578

            phtalic anhydrides with diethylene glycol, 33% of styrol-
            stitching agent, and 2% of an initiator-- benzoyl peroxide),
            and a control samploof a glass toxtolite on unfinished GF;
            water adsorption (in %) after 24 hours -- 0.76%; 1.61;
            after 16 x 24 hours, 1.93; 2.94. The limit of tensile
            strength (kg/cm^2) in a dry state, 4270,3700. After boing
            kept in water for 24 hours -- 2890; 1840. After being
            kept in water for 24 x 16 hours, 2740; 2140. Limit of
            the bending strength (Kg/cm^2) in the dry state: 2270.
            After being kept in water for 24 hours: 970; 580. After
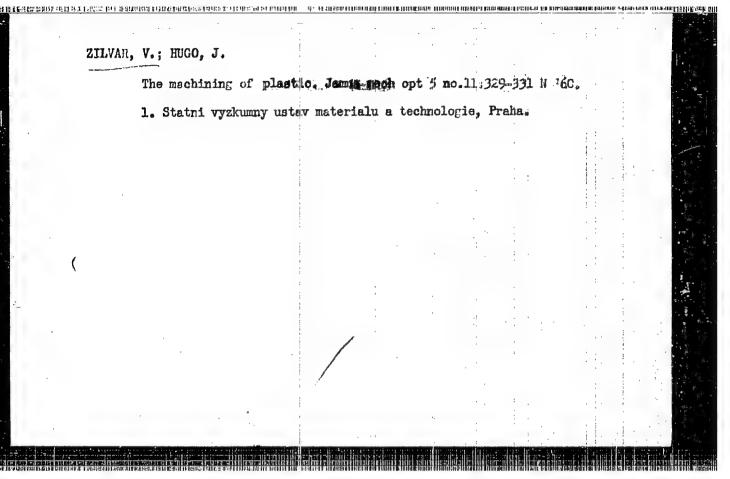   being kept in water for 16 x 24 hours: 960; 850.

Card 2/2

ZILVAR, V.

Conference on advances in polymer science and technology.
Chem. prum 13 no.11:613-615 N'63.

1. Statni vyzkumny ustav materialu a technologie, Praha.

TEINDL, J., prof., inz., Dr.Sc.; MYSLIVEC, T., inz , C.Sc.; PROUZA, M.,
doc., inz., C.Sc.; KINSKY, Fr., inz., dr.; KLIK, L., inz.; NEMEC, J.,
prof., inz., dr., Dr.Sc.; STARON, J., inz.; ZILVAR, V., inz.

"Science of materials" by [akademik] Frantisek Pisek, Ladislav Jenicek.
Pt.3. Vol.1: "Outline of the development of materials. Theory of
metallurgical processes. General metallurgy." Vol.2: "Production
of iron, steel and nonferrous metals. Nonmetallic materials."
Reviewed by J. Teindl, T. Myslivec, M. Prouza, Fr. Kinsky, L. Klik,
J. Nemec, J. Staron, V. Zilvar. Hut listy 18 no.4:299-304 Ap '63.

1. Clen korespondent Ceskoslovenska akademie ved (for Teindl and Kinsky).

ZILVAR, V.; HUGO, J.

The machining of plastic. Jemna mech opt 5 no.11,329-331 N '60.

1. Statni vyzkumny ustav materialu a technologie, Praha.

27228

15.8110
15.8520

Z/009/61/000/009/003/003
E112/E435

AUTHOR: Zilvar, Václav

TITLE: Heat resistance of glass-reinforced polyester laminates to elevated temperature

PERIODICAL: Chemický průmysl, No.9, 1961, pp.493-497

TEXT: This paper was presented at the Conference on unsaturated polyester resins, Pardubice, 1960.

Glass-fibre reinforced polyester laminates were produced from Czechoslovak glass fibres (Plastik V, manufactured by Vertex, Litomyšl) and two types of commercial polyester resins: Veropal, manufactured by Plastimat, Prague, and Polylite, supplied by Oel Chemie.   Veropal is described as an unsaturated polyester resin and was used with cyclohexanone-peroxide + cobalt naphthenate as curing catalyst.   Polylite was cured with benzoyl-peroxide. The laminates, in the form of rectangular sheets (15 x 30 cm), were fabricated either by hand lay-up moulding at room temperature or under pressure of 4 kg/cm^2 at 110°C.   The characteristics of the test specimens are tabulated.   The laminated fabrics were subjected to the following mechanical tests at varying temperatures: Card 1/6

27228

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B112/E435

Heat resistance of glass- ...

1) Tensile strength tests. These showed a decrease of about 30%
on heating the laminate from 20 to 100°C.   Absolute values for
tensile strength for a given type of polyester resin was
found to depend on the proportion of glass fibres in the
laminate, their orientation and finish.
2) Flexural strength. Decrease of flexural strength with
temperature is presented graphically, showing steeper slope of the
curve for laminate containing lower proportion of glass fibre.
Flexural deformation curves at 20, 40, 60 and 80°C are recorded
for laminates from Veropal, with 52% and 78% glass-fibre
contents, respectively.
3) Impact strength. No rupture of the test specimen was noticed
within the range of the applied temperatures (-60 to 200°C).
Laminates fabricated from Veropal or Polylite were found to be
practically identical with respect to impact strength.   Materials
with higher resin contents and cured at room temperatures
showed decreased impact strength.
4) Modulus of elasticity. (Determined from flexural stress data.)
These tests were primarily undertaken to provide information about
Card 2/6

27228

Z/009/61/000/009/003/003
E112/E435

Heat resistance of glass- ...

the effects of differences in glass-fibre construction upon
thermal stability of the laminates.   An additional glass fibre,
Yplast 35, coronized and sized with a Czechoslovak sizing agent
(Volan) was included in the tests.   (Abstractor's note:
Producer and characteristics of Yplast 35 not given.)
It is shown graphically how the modulus of elasticity declines
steadily with temperature, the decline being practically identical
for the different types of glass fibre studied.   Laminates
from epoxy-resins showed a similar temperature dependence.
5) Flow characteristics at 100°C of glass laminates with epoxies
and polyesters were compared, showing generally a considerably
increased rate of flow for the polyesters, particularly at
elevated temperatures.
6) Changes of rate of flow with time were investigated for
polyester laminates (prepared by hand lay-up laminating) under
laboratory and weathering conditions.   Weathering produced an
increased rate of flow, compared to laboratory exposure.
7) Fatigue strength. Temperature effects were established on a
laminate, fabricated from a coronized glass fibre Yplast 35, sized
with Volan and resin Polylite 8000.   A similar decrease of
Card 3/6

27228

Z/009/61/000/009/003/003
E112/E435

Heat resistance of glass- ..

fatigue strength with temperature was established as for tensile and flexural strength.   Values for fatigue strength and modulus of elasticity are correlated.   The Martens method for the determination of the thermal distortion is discussed.   It is found inadequate and the modified procedure of ASTM D 648-45 T is suggested.   The following conclusions were made: mechanical properties, particularly fatigue strength, are adversely affected by increased temperatures;   the upper limit for glass-fibre-polyester laminates which will leave mechanical properties unimpaired is 60 to 80°C.   There are 9 figures, 2 table and 9 references: 4 Soviet-bloc and 5 non-Soviet-bloc.   The four most recent references to English language publications read as follows: Ref.1: Carey R.H. ASTM Bulletin 206, 52 (1955); Ref.4: Technical Conference Reinforced Plastics, Harrogate, 1957; Ref.5: Reinforced Plastics Technical Conference, Brighton, 1958; Ref.6: Pusey B and Carey R. Mod. Plastics 32, No.7, 138 (1955).

Editor's note: The text of this paper is virtually identical with the contents of the paper of a similar title by the same author, published in Strojírenství, No.8, 1961, pp.608-612.   The

Card 4/6

27228

Z/009/61/000/009/003/003

Heat resistance of glass- ...   E112/E435

technical content of the abstract is also the same in both cases.

ASSOCIATION: Statní výzkumný ústav materiálu a technologie, Praha
(State Research Institute for Materials and
Technology, Prague)

SUBMITTED: September 5, 1960

Card 5/6

15.8350

24284
Z/032/61/011/008/003/009
E112/E435

AUTHOR: Zilvar, V.

TITLE: Temperature effects on mechanical properties of glass-
reinforced polyester laminates

PERIODICAL: Strojírenství, 1961, Vol.11, No.8, pp.608-612

TEXT: Glass-fibre reinforced polyester laminates were produced
from Czechoslovak glass fibres (Plastik V, manufactured by Vertex,
Litomysl) and two types of commercial polyester resins: Veropal,
manufactured by Plastimat, Prague and Polylite, supplied by
Oel Chemie.   Veropal is described as an unsaturated polyester resin
and was used with cyclohexanone-peroxide + cobalt naphthenate as
curing catalyst.   Polylite was cured with benzoyl-peroxide.   The
laminates, in the form of rectangular sheets (15 x 30 cm) were
fabricated either by hand lay-up moulding at room temperature or
under pressure of 4 kg/cm^2 at 110°C.   The characteristics of the
test specimens are tabulated.   The laminated fabrics were
subjected to the following mechanical tests at varying
temperatures: 1) Tensile strength tests.   These showed
a decrease of about 30% on heating the laminate from 20°C to 100°C.
Absolute values for tensile strength for a given type of polyester
Card 1/5

24284
Z/032/61/011/008/003/009
E112/E435

Temperature effects ...

resin was found to depend on the proportion of glass fibres in the laminate, their orientation and finish.   2) Flexural strength. Decrease of flexural strength with temperature is presented graphically, showing steeper slope of the curve for laminate containing lower proportion of glass fibre.   Flexural deformation curves at 20, 40, 60 and 80°C are recorded for laminates from Veropal, with 52% and 78% glass-fibre contents respectively. 3) Impact strength.   No rupture of the test specimen was noticed within the range of the applied temperatures (-60 to 200°C). Laminates fabricated from Veropal or Polylite were found to be practically identical with respect to impact strength.   Materials with higher resin contents and cured at room temperatures showed decreased impact strength.   4) Modulus of elasticity, (Determined from flexural stress data.)   These tests were primarily undertaken to provide information about the effects of differences in glass-fibre construction upon thermal stability of the laminates.   An additional glass fibre, Yp'ast 35, coronized and sized with a Czechoslovak sizing agent (Volan) was included in the tests.   (Abstractor's note: Producer and characteristics of Yplast 35 not given.)   It is shown graphically how the modulus of Card 2/5

24284

Z/032/61/011/008/003/009
E112/E435

Temperature effects ...

elasticity declines steadily with temperature, the decline being practically identical for the different types of glass fibre studied.   Laminates from epoxy-resins showed a similar temperature dependence.   5) Flow characteristics at 100°C of glass laminates with epoxies and polyesters were compared, showing generally a considerably increased rate of flow for the polyesters, particularly at elevated temperatures.   6) Changes of rate of flow with time were investigated for polyester laminates (prepared by hand lay-up laminating) under laboratory and weathering conditions.   Weathering produced an increased rate of flow, compared to laboratory exposure. 7) Fatigue strength.   Temperature effects were established on a laminate, fabricated from a coronized glass fibre Yplast 35, sized with Volan and resin Polylite 8000.   A similar decrease of fatigue strength with temperature was established as for tensile and flexural strength.   Values for fatigue strength and modulus of elasticity are correlated.   The Martens method for the determination of the thermal distortion is discussed.   It is found inadequate and the modified procedure of ASTM D 648-45 T is suggested.   The following conclusions were made: mechanical properties, particularly fatigue strength, are adversely affected by increased

Card 3/ 5

24284

Z/032/61/011/008/003/009
E112/E435

Temperature effects ...

temperatures;   the upper limit for glass-fibre-polyester laminates
which will leave mechanical properties unimpaired is 60 to 80°C.
There are 10 figures, 1 table and 12 references: 5 Soviet-bloc and
7 non-Soviet-bloc.   Four of the references to English language
publications read as follows: Carey, R.H., 1955, ASTM Bulletin
206, 52;   Technical Conference Reinforced Plastics, Harrogate 1957;
Reinforced Plastics Technical Conference, Brighton, 1958;
1959, II, ASTM Bull.

ASSOCIATION: SVÚMT, Praha (SVÚMT, Prague)

Card 4/5

ZILVAR, V.

CZECHOSLOVAKIA/Chemical Products and Their Application. Synthetic   H-29
          Polymers. Plastics.

Abs Jour: Ref. Zhur-Khimiya, No 11, 1958, 38079

Author : Zilvar, V.
Inst   : Not given.
Title   : Properties of Polyester Vitreous Plastics.

Orig Pub: Strojirenstvi, 1956, 6, No 9, 612-620.

Abstract: Synopsis. Parent substances, methods of production
          and of experiments, properties of vitreous plastics.
          Recommendations are given according to the selection
          of specific pressures during the pressing of these ma-
          terials. Bib. 25 titles.

Card   : 1/1

15.9300

31622
S/138/61/000/012/006/008
A051/A126

AUTHORS: Gol'berg, I.I.; Zil'vestr, E.Ya.; Zubkova, Yu.D.; Mayzelis,
B.A.; Chernaya, V.V.

TITLE: The effect of the degree of expansion of gel on the tear elonga-
tion of vulcanized meteorclogical radio-probing balloons

PERIODICAL: Kauchuk i rezina, no. 12, 1961, 35 - 37

TEXT: A study was made of the effect of the preliminary degree of expan-
sion of gels on the tear elongation of the vulcanized balloons nos. 100 and
150; the optimum degree of the gel expansion was established. A square para-
bolic relation is derived between the tear elongation of the vulcanized bal-
loons and the elongation of the crude gel. Soviet meteorological balloon-
probes are produced from polychloroprene latex, $Л$-17 (L-17), by the ionic de-
positing method. The present article describes the results of the investiga-
tions of balloons with an initial diameter of $D_0 = 100$ cm (No. 100) and $D_0 =$
150 cm (No. 150). The balloons were produced from a mixture of L-17 and 15%
dibutylsebacynate $ДБС$ (DBS), as antifreeze. The degree of expansion of the
gel (λ_g) was determined as the ratio of the diameter of the expanded balloon

Card 1/4

The effect of the degree of expansion of ....

from gel, D_{g}, to its diameter in an expanded state D_0 (prior to expansion of the gel walls). The air volume necessary to expand the gel was determined with a gas meter   -100 (RS-100). D_{g} was estimated from the formula of the sphere volume. D_0 was estimated from the air volume used to inflate the balloon. The tear elongation λ_{tear} of the vulcanized balloons was determined from the ratio of the air volume within the balloons at the moment of tear V_{tear}, to the tear volume V_0 needed to expand the balloon :

$$\lambda_{tear} = \sqrt[3]{\frac{V_{tear}}{V_0}} . \qquad (1)$$

V_{tear} and V_0 were counted by the diaphragm, mounted on the suction socket of the air blower. A mathematical relation is established between the tear elongation of the vulcanized balloons and the degree of the preliminary expansion of the gels. It is assumed that the relation $\lambda_{tear} = f(\lambda_g)$ can be expressed by the equation of the square parabola:

$$\lambda_{tear} = a\lambda_g^2 + b\lambda_g + c . \qquad (2)$$

The average tear elongations of the balloons were calculated using (2) at various degrees of gel elongation. The assumption of the parabolic-shape relation be-

Card 2/4

The effect of the degree of expansion of ....

tween λ_{tear} and λ_g is tested by calculating the coefficient of the parabolic regression η according to the formula:

$$\eta = \sqrt{\frac{s^2 \lambda_{calc.}}{s_\lambda^2}} \qquad (3)$$

where $s^2 \lambda_{calc.}$ is the dispersion of the calculated average values of the tear elongation of the balloons around the general average of experimental values, s_λ^2 the dispersion of the experimental values of the tear elongations around their general average. When $\eta = 1$, there is a functional square parabolic relationship between λ_{tear} and λ_g. If $\eta = 0$, then the assumption is erroneous. If η lies between 0 and 1, then the evaluation is made according to the formula: $A = \eta \sqrt{N - 1}$ (4), where N is the number of tests. If $A > 3$, then η differs significantly from 0, i.e., there is a relation between λ_{tear} and λ_g close to a parabola. If $A < 3$, then η differs slightly from zero and there is no parabolic relation between them. At a given degree of expansion of the gel, a redistribution of the tension takes place, connected with the smoothing out of the gel along the thickness. Thus, the gel becomes more uniform in its properties, resulting in higher values of tear elongation of the vulcanized balloons. At low degrees of gel expansion, expansion of the less dense or thin-

Card 3/4

The effect of the degree of expansion of ....

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ner parts of the gel takes place due to non-uniformity. At further progress of deformation, the uniformity of the gel will be upset due to partial destruction of the bonds between the various globules and this, in turn, will lead to a drop in the tear elongations of the vulcanizates. There is 1 figure and 4 Soviet-bloc references.

ASSOCIATION: Nauchno-issledovatel'skiy institut rezinovykh i lateksnykh izdeliy
(Scientific Research Institute of Rubber and Latex Articles)

Card 4/4

ZILVESTR, YA. YA.   DECEASED   1963/?

                                     d. 1962

MACHINE BUILDING

                                     See ILC

Ca

25

Treatment of vegetable fibers for the textile industry. Antal Buday Goldberger and Henrik Zilzer. Hung. 132,595, Feb. 15, 1944. Fibers are treated with gaseous Cl, then placed in an emulsion bath contg. 2–4% emulsifiers, together with fat acids, fats, or oils dispersed in water. István Finály

The effect of altered acid-base equilibrium on growth. [...] Wegner Orvosi Archivum 31, 171-5(1930).—Rats about 25 days old, about 30 g. in wt. and from the same litter were fed acid and basic diets. The compn. of the diet was: albumin, fats, carbohydrates and some neutral salts, to which were added the acid and basic salts, resp. Nine groups were exand. In every group there were 3 acid- and 3 base-fed animals. Increase in wt. was observed during 8-13 weeks. In 8 groups

the acid-fed animals increased in wt.; in the other groups the base-fed animals gained. The av. gain of 27 base-fed animals was 8% greater than the av. of 27 acid-fed animals. Diuresis caused in both acid- and base-fed animals the same loss of body wt. which shows that the difference in growth was not caused by the retention of fixed alkali.

H. TAUBER

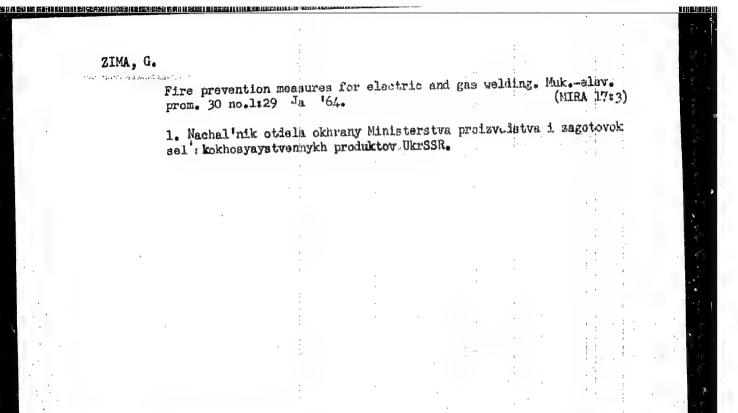ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

ZIMA (FNU)

Neon-tube impulse counters. p. 46.

Vol. 14, no. 1, Jan. 1953
SLABOPROUDY OBZOR
Praha, Czechoslovakia

So: Eastern European Accession Vol. 5 No. 4 April 1956

ZIMA, A. G.: Master Biol Sci (diss) -- "Material on the physiology of static

work". Alma-Ata, 1958. 19 pp (Inst of Physiology, Inst of Regional Pathology,

and Inst of Clinical and Experimental Surgery Acad Sci Kazakh SSR), 200 copies

(KL, No 2, 1959, 119)

ZIMA, G.

Fire prevention measures for electric and gas welding. Muk.-eluv.
prom. 30 no.1:29 Ja '64.   (MIRA 17:3)

1. Nachal'nik otdela okhrany Ministerstva proizvodstva i zagotovok
sel'. kokhosyaystvennykh produktov UkrSSR.

ZIMA, G.

Fire control measures in drying earcorn in storages, sheds,
on platforms, and in piles. Muk.-elev. prom. 29 no.8:30-31
Ag '63.   (MIRA 17:1)

1. Nachal'nik otdela okhrany Ministerstva proizvodstva i
zagotovok sel'skokhozyaystvennykh produktov UkrSSR.

ZIMA, G.

    Strictly observe rules on fire prevention. Muk.-elev. prom.
29 no.4:22 Ap '63.   (MIRA 16:7)

1. Nachal'nik otdela okhrany Ministerstva proizvodstva i
zagotovok sel'skokhozyaystvennykh produktov UkrSSR.
       (Ukraine—Grain elevators—Fires and fire prevention)

ZIMA, G.

Observe strictly fire prevention measures in drying corn with
mobile hot-air ventilation units. Muk.-elev. prom. 28
no.12:15-16 D '62.   (MIRA 16:1)

1. Nachal'nik otdela Upravleniya vnutrenney okhrany respubliki
Ministerstva proizvodstva i zagotovok sel'skokhozyaystvennykh
produktov Ukrainskoy SSR.
                        (Corn (Maize)—Drying)

MEDVEDEVA, A.M.; ZIMA, G.G., zaveduyushchiy.

Experiment of spraying buildings in Stalingrad Province with DDT instead
of practicing larva control. Med.paraz.i paraz.bol. no.2:133-135 Mr-Ap
'53.   (MLRA 6:6)

1. Stalingradskaya oblastnaya protivomalyariynaya stantsiya.
        (Stalingrad Province--Malarial Fever--Prevention) (DDT (Insecti-
                                                              cide)

ZIMA, G.G.,; YERSHOVA, I.F.

Controlling mosquitoes by fall treatment of natural waters. Med.
paraz. 25 no.1:73-74 Ja-M '56   (MIRA 9:6)

1. Iz Stalingradskoy oblastnoy protivomalyariynoy stantsii
(glavnyy vrach G.G. Zima)
        (MOSQUITOES--EXTERMINATION) (DDT (INSECTICIDE))

ACC NR: AP6007153   SOURCE CODE: UR/0106/66/021/002/0051/0054

AUTHOR: Benesh, O. (Prague); Zima, I. (Prague)

ORG: Scientific Research Institute of Radio, Prague (NIIR im. A. S. Popova)

TITLE: Solid-state diode detector

SOURCE: Radiotekhnika, v. 21, no. 2, 1966, 51-54

TOPIC TAGS: diode detector, solid state detector, miniature detector

ABSTRACT: The development of a miniature 450-kc semiconductor-diode AM detector is reported. The detector load resistance is 5 kohms; capacitance, 10^4 pF. A 0.2-mm diameter diode is made from p-Si having a resistivity of 1 ohm.cm. Production process and testing of the detector are described. These characteristics are reported: modulated-voltage transfer factor, 0.53; nonmodulated-voltage transfer factor, 0.285; voltage gain near the operating point, 0.965; transconductance, 2.32 ma/v; internal resistance, 445 ohms; second-harmonic distortion factor, 7.3%. R-f voltage attenuation, detecting factor, and some other characteristics are also presented. Orig. art. has: 10 figures and 1 formula. [03]

SUB CODE: 09 / SUBM DATE: 31Aug64 / ATD PRESS: 4223

Card 1/1   UDC: 621.382.8

BURLAK, P.G.; ZIMA, I.F., sekretar' partiynoy organizatsii.

In a progressive regional telecommunication office. Vest.aviazi
16 no.1:18 Ja '56.   (MLRA 9:5)

1. Ispolnyayushchiy obyasannosti nachal'nika Novo-Bugskoy rayonnoy
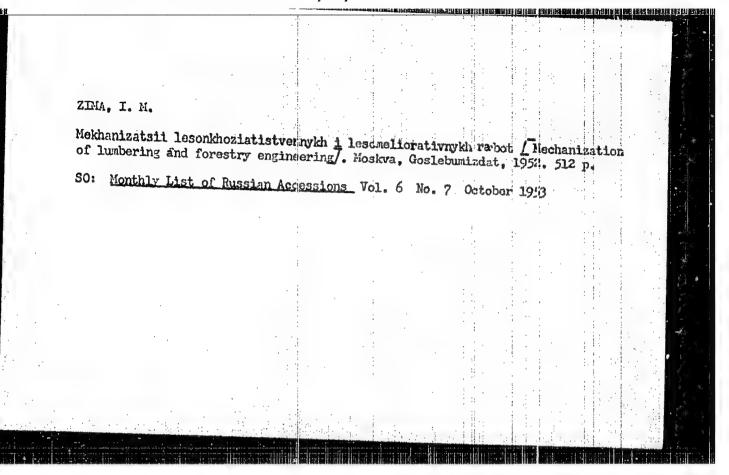kontory svyazi (for Burlak).
                  (Novy Bug--Telecommunication)

ZIMA, I. M.

Mekhanizatsiia lesokhoziaistvennykh rabot. 2-e, perer. i dopoln. izd. Moskva, Goslesbumizdat, 1950. 400 p.

(Mechanization of the timber economy.)

SO: Manufacturing and Mechanical Engineering in the Soviet Union, Library of Congress, 1953

ZIMA, I. M.

Mekhanizatsii lesonkhoziatistvernykh i lesomeliorativnykh rabot [Mechanization of lumbering and forestry engineering]. Moskva, Goslebumizdat, 1952. 512 p.

SO: Monthly List of Russian Accessions Vol. 6 No. 7 October 1953

ZIMA, I.M.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

Name	Title of Work	Nominated by
Zima, I.M.	"Mechanization of Forestry and Forest Soil Improvement Works"	Kiev Forestry Institute, Ministry of Higher Education USSR

SO: W-30604, 7 July 1954

1. ZIMA, Y. M., MALTUGIN, T. T.

2. USSR (600)

4. Agricultural Machinery

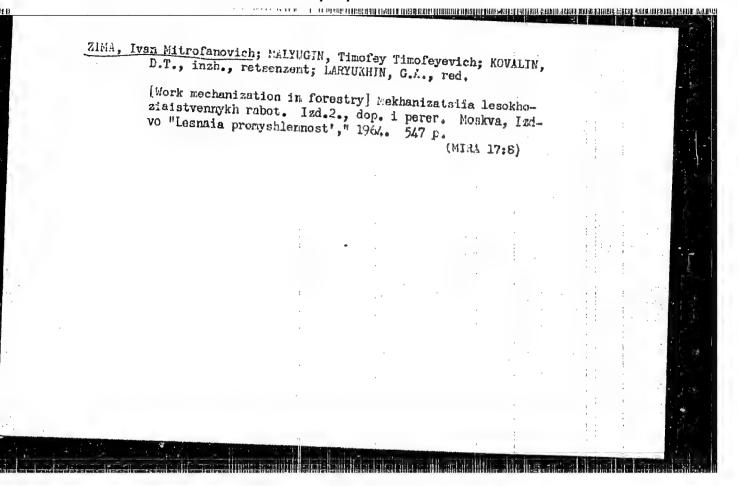7. Planting trees by machinery in the irrigation zone of the South Ukrainian Canal. Les i step' 5, no. 1, 1953.

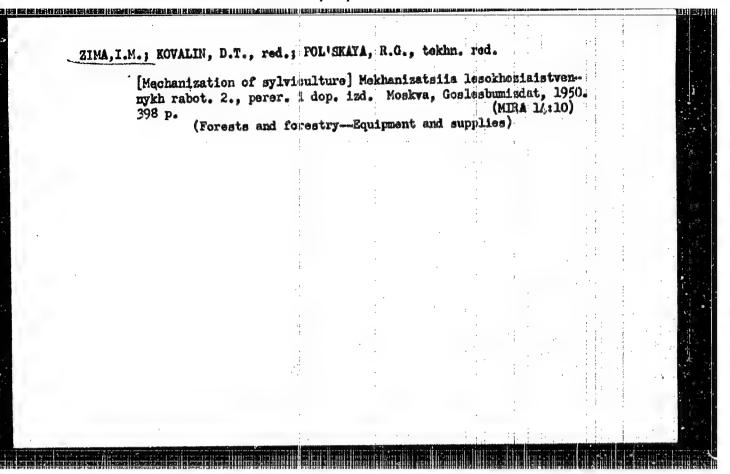9. Monthly List of Russian Accessions, Library of Congress, _____1953. Unclassified.

1. ZIMA, I. M.; MALYUGIN, T. T.

2. USSR (600)

4. Tree Planting

7. Greater efficiency in planting trees on sand, Les. khoz., 6, No. 3, 1953.

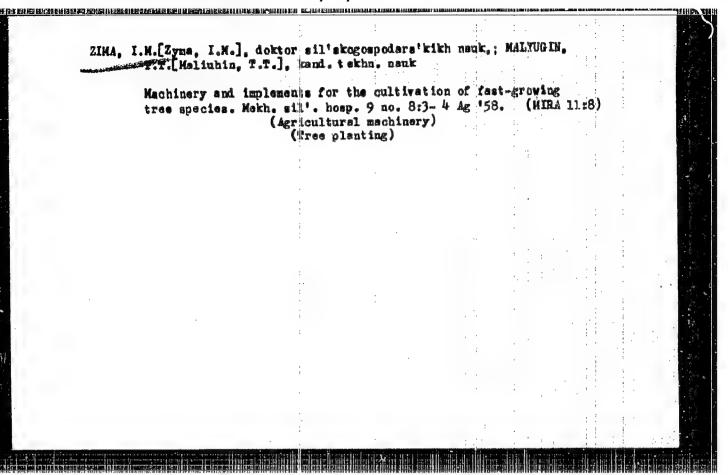9. Monthly List of Russian Accessions, Library of Congress, _____April,_____ 1953, Uncl.

ZIMA, Ivan Mitrofanovich; MALYUGIN, Timofey Timofeyevich; KOVALIN,
        D.T., inzh., retsenzent; LARYUKHIN, G.A., red.

        [Work mechanization in forestry] Mekhanizatsiia lesokho-
        ziaistvennykh rabot. Izd.2., dop. i perer. Moskva, Izd-
        vo "Lesnaia promyshlennost'," 1964. 547 p.
                                        (MIRA 17:8)

ZIMA,I.M.; KOVALIN, D.T., red.; POL'SKAYA, R.G., tekhn. red.

[Mechanization of sylviculture] Mekhanizatsiia lesokhoziaistven-
nykh rabot. 2., perer. i dop. izd. Moskva, Goslesbumizdat, 1950.
398 p.   (MIRA 14:10)
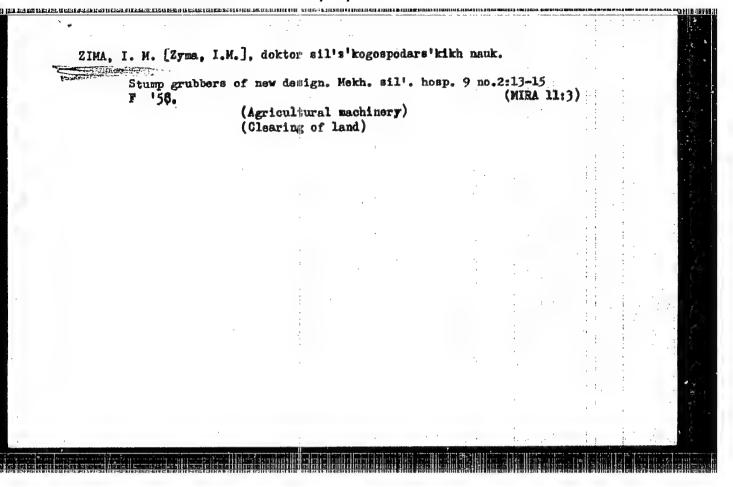   (Forests and forestry—Equipment and supplies)

ZIMA, Ivan Mitrofanovich; MALYUGIN, Timofey Timofeyevich; KURUSHIN, F.M.,
    retsenzent; ASHEULOV, Ye.A., retsenzent; VLASOV, Ye.I., red.;
    FUKS, Ye.A., red.izd-va; PARAKHINA, N.L., tekhn.red.

[Mechanization of silvicultural operations] Mekhanizatsiia
lesokhoziaistvennykh rabot. Moskva, Goslesbumizdat, 1960.
563 p.   (MIRA 14:1)
    (Forests and forestry--Equipment and supplies)

ZIMA, I.M.[Zyma, I.M.], doktor sil'skogospodars'kikh nauk,; MALYUGIN,
T.T.[Maliuhin, T.T.], kand. tekhn. nauk

Machinery and implements for the cultivation of fast-growing
tree species. Mekh. sil'. hosp. 9 no. 8:3- 4 Ag '58.   (MIRA 11:8)
(Agricultural machinery)
(Tree planting)

ZIMA, I. M. [Zyma, I.M.], doktor sil's'kogospodars'kikh nauk.

Stump grubbers of new design. Mekh. sil'. hosp. 9 no.2:13-15
F '58.   (MIRA 11:3)
                    (Agricultural machinery)
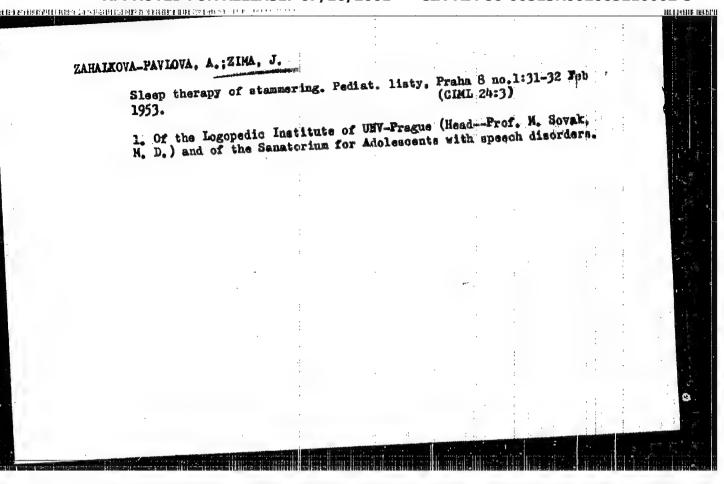   (Clearing of land)

ZIMA, J.

Zima, J.: Trojanek, Z. 75 years of the periodical Elektrichestvo
p. 125.
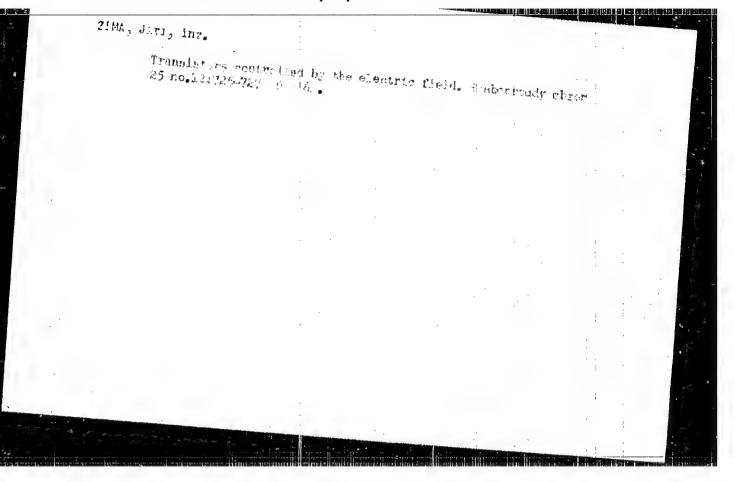SOVETSKA VEDA: ENERGETIKA, Prague, Vol. 4, no. 2, 1956.

SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 5, No. 6,
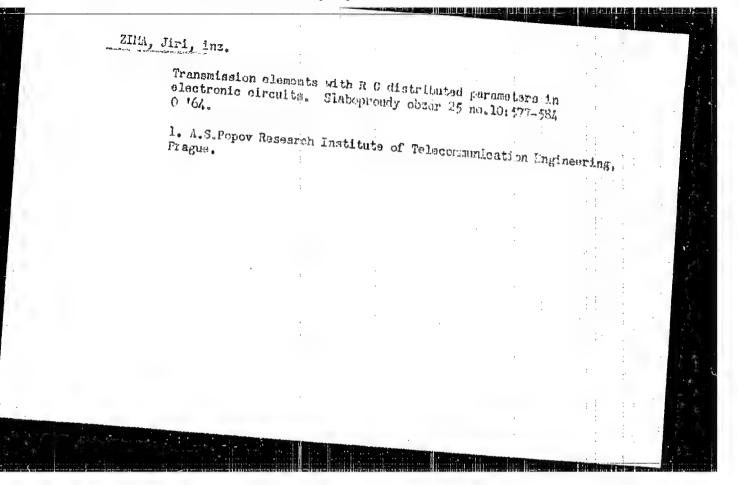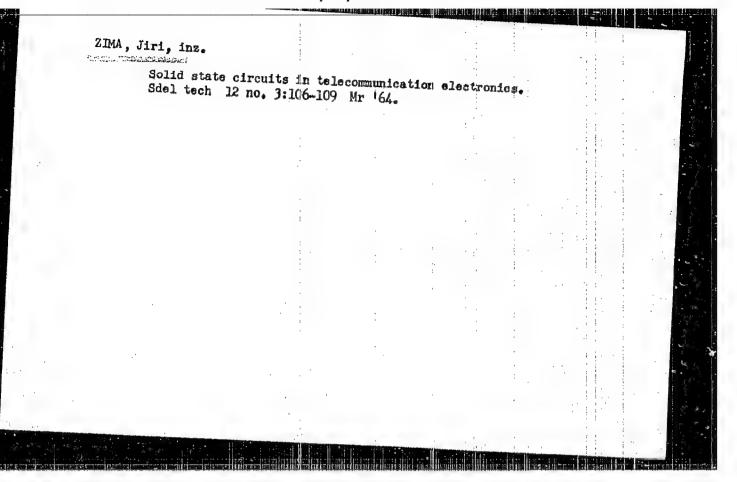   June 1956, Uncl.

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ZIMA, J. Electrodynamic models. p. 603, Vol 4, no. 5, 1956
        SOVETSKA VEDA: ENERGETIKA
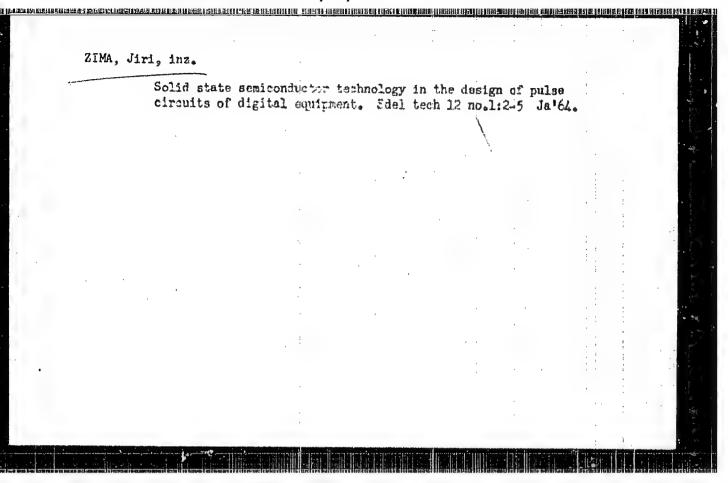   Praha, Czechoslovakia

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Sleep therapy of stammering. Pediat. listy, Praha 8 no.1:31-32 Feb 1953.
(CIML 24:3)

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ZIMA, Jiri, inz.

Transistors controlled by the electric field. Elektrotechn obzor
25 no.12:726-727 D '16.

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Transmission elements with R C distributed parameters in electronic circuits. Slaboproudy obzor 25 no.10:577-584 O '64.

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Sdel tech 12 no. 3:106-109 Mr '64.

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Transistorized heavy-duty amplifier. Automatizace 6 no.3:70-71
Mr '63.

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ZIMA, Jiri, inz.

Reliabiloty of electronic components. Slaboproudy obzor 25
no.3:170-171 Mr '64.